Project 1 Programmer Manual

1. Problem Description

This program will simulate the behavior of the lock when five characters are entered. The actions are unlock (if correct sequence entered) and an alarm (if the incorrect sequence is entered).

2. Data Types and Classes:

The data types used in this program fall into two categories: predefined data types and programmer-defined datatypes. The following subsections address the data types used.

2.1 `Table` (programmer-defined type)

This Class is used to store the transition table and action table of the finite state machine (FSM) which models the behavior of the lock.

The Class has:

Date members: tableCapacity, tableSize, the_table.

Member functions: Table, ~Table, insert, remove, lookup, isIn, empty, size, full.

Member operator: = (assignment operator)

See the Programmer Manual for the Table Class for details.

2.2 `enum` (predefined type)

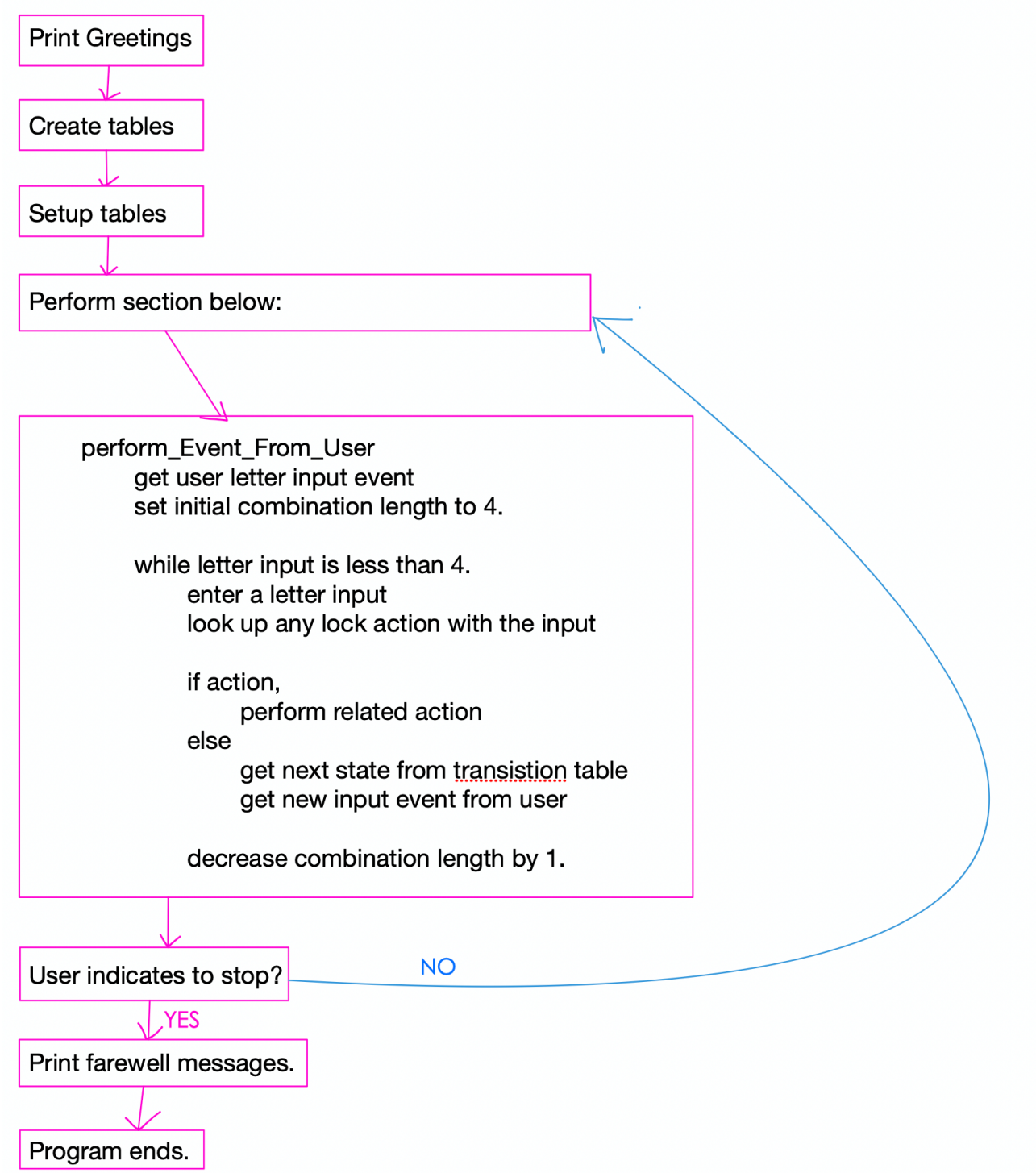
Variables:

`actionT` — This enumerated type is used to represent the seven lock states.

`eventT` — This enumerated type is used to represent the four user actions.

`stateT` — This enumerated type is used to represent the four user actions .

3. High Level Program Solution



4. Limitations and Suggestions:

One of the biggest limitations is that program is limited to only work for 4-letter combination.